

REMARKS

The Office Action dated August 31, 2006 has been reviewed. Reconsideration of the application is requested.

In summary, Applicant appreciates the allowance of Claims 10-12 and 14-24. Dependent Claims 2-4 are not rejected in the Office Action. Thus Applicant presumes Claims 2-4 are allowable if rewritten in independent form.

Claims 1, 5-7, 9, 29, 30 and 33 remain rejected. Independent Claim 29 has been amended to include the features of cancelled Claim 30. Thus no new issues have been presented. Claim 31 has been amended to depend from Claim 29 instead of cancelled Claim 30. Claim 34 has been cancelled. Non-elected Claims 31 and 32 remain withdrawn from consideration. Upon allowance of Claim 29, rejoinder and allowance of non-elected Claims 31 and 32 is respectfully requested.

The objection to the drawings set forth at page 2 of the Office Action has been considered. The Office Action states that the drawings must show every feature of the invention specified in the claims, and specifically, "the valve barrel being seated in the stem bore". In the previous Response claims were amended to delete any reference to the valve barrel being "seated" in the stem bore.

The Office Action also states that "the retaining member being in the valve arm to engage the housing must be shown" in the drawings. In the previous Response the claims were amended to no longer recite the retaining member being in the valve "arm".

In view of the objected to features being deleted from the pending claims, reconsideration and withdrawal of the objection to the drawings is respectfully requested.

At page 3 of the Office Action, the specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. The specification is specifically objected to as not providing support for the "retaining member being positioned in the valve arm". As set forth above, the

claims no longer recite the retaining member positioned in the valve "arm".

The specification is also objected to for failing to provide basis for the phrase "the valve lever or stem is provided with a bore in which the retaining member is seated". As discussed above, this language was deleted from the claims in the previous Response.

The Office Action also objects to the specification for not providing support for the phrases "the valve lever provided with a removable locking member to engage the retaining member" and "the lever having valve holes". These phrases were deleted from the claims in the previous Response.

Finally, the specification is objected to as not providing basis for "a second pin seated in a second bore". In the previous Response, paragraph [0040] of Applicant's specification was amended at line 22 to recite a "set screw or pin 112" that is secured in a second bore. Thus element 112 comprises the second pin which is recited in the claims.

For the above reasons, the specification is believed to provide proper antecedent basis for the claimed subject matter. Therefore, reconsideration and withdrawal of the objection to the specification is accordingly requested.

As discussed above, Claims 2-4 have not been rejected based on prior art. Therefore, Applicant believes Claims 2-4 are allowable and these claims will not be discussed further herein.

Claims 1 and 9 were rejected under 35 USC §103 as unpatentable over Sjostrom (U.S. Patent No. 5 871 493) in view Cook (U.S. Patent No. 5 241 990).

Sjostrom discloses a surgical instrument handpiece and system including an aspiration channel 630 and a rotatable valve 640 that controls flow therethrough. A handle 635 positioned on the bottom of the handpiece near the distal end thereof rotates about an axis to permit one-handed, finger control of flow through the aspiration channel. The aspiration channel ends at an aspiration spigot at the

proximal end of the handpiece as illustrated in Figure 3A. Further, Figure 3A shows that the valve 640 comprises a solid cylindrical valve body having a channel extending through the entirety thereof. The channel has a constant diameter along the entire length thereof.

Cook discloses a combination irrigation/aspiration valve and probe for laparoscopy. The valve includes a rotatable valve body 20 defined as a hollow cylinder with a large top opening at a top axial end and a pair of vertically spaced apertures 74, 75 opening through an annular valve wall 30 of the valve body. Rotation of the valve body 20 places a first aperture in alignment with an irrigation source or a second aperture in alignment with an aspiration/suction source. The top axial end of the cylinder opens into channel 58.

Column 5, lines 47-55 of Cook discloses the use of different shapes for the apertures 74, 75 including a tear-drop shape. The apertures 74, 75 of Cook open into a large inner flow chamber 70 defined within the valve body, rather than providing a direct passage through the valve body as in Sjostrom.

As discussed at column 3, lines 26-28 and as illustrated in Figures 3 and 5 of Cook, the annular valve body provides a very short distance from the outside of the valve through the apertures 74, 75 to the inner flow chamber 70. According to Cook, this arrangement prevents debris from lodging in the apertures 74, 75. Therefore Cook teaches away from providing any aperture, much less a tear-drop shaped aperture, that extends through a valve body a significant distance.

The valve structure of Cook is designed to selectively communicate irrigation or aspiration through the valve. Thus, Cook discloses a valve having two input pathways through apertures 74, 75 depending on the desired effect thereof. Further, the Cook valve essentially provides a 90° turn for the flow path. Flow enters or exits one of the apertures and then travels upwardly or downwardly through the large top opening of the valve body. Thus the tear-drop shaped

aperture(s) of Cook extend into the large hollow inner flow chamber of the valve body and do not extend through the entirety thereof.

There is no motivation, absent Applicant's specification, to change the shape of the bore of Sjostrom to a tear-drop shape, much less a tear-drop shape along the entire length of the bore. As discussed above, Cook teaches that the distance from the outside of the valve body to the inner chamber is relatively short. Therefore, it is unclear why one of ordinary skill would use the tear-drop shape for an aperture having a short length of Cook for the valve of Sjostrom that extends through the valve body.

Moreover, Applicant's Claim 1 recites a valve "being formed to have a valve bore that extends therethrough with first and second non-circular valve bore openings at the opposite ends of said valve bore". As discussed above, Sjostrom does not disclose a non-circular valve bore opening and Cook does not disclose such openings at opposite ends of a valve bore that extends through a valve. Instead, as discussed above, the Cook valve body includes a chamber therein to receive one end of the valve bore.

Further, Applicant's Claim 1 recites "the first valve bore opening being shaped to have a first narrow width section that is first placed in registration with the suction bore" and "the second valve bore opening being shaped to have a first narrow width section that is first placed in registration with the suction passage during the rotation of the valve". As discussed above, Cook discloses one valve bore opening in registration with a passage while the other valve bore opening simply opens into a chamber within the valve body rather than a second passage.

Further, if one of ordinary skill in the art were able to substitute the valve body having a tear-drop shaped aperture of Cook for the channel in the valve 640 of Sjostrom, which Applicant disagrees with, the resulting channel would have a tear-drop shape at one end for a small distance and then a

large opening or chamber extending through the rest of the valve body to open at the other end of the passage. Such a structure would conform to the teachings of Cook which discloses a short flow path through the apertures to prevent debris from clogging the passageway. Therefore, Applicant's claimed invention would not result.

Turning to the dependent claims, Claim 9 further recites that the "first and second valve bore openings are identically shaped but inverted relative to one another on opposite sides of said valve such that said first narrow width section of said first valve bore opening is disposed circumferentially adjacent said second wide width section of said second valve bore opening, and said second wide width section of said first valve bore opening is disposed circumferentially adjacent said first narrow width section of said second valve bore opening". This type of "inverted" relationship between the spaced valve bore openings is not disclosed or suggested in any of the prior art of record. The two inverted bore openings result in an unusual path through the valve body as best illustrated in Applicant's Figure 6.

The Office Action at page 4, last five lines, states that it would have been obvious to have the bore inverted relative to each other because it would not make any sense to have one opening have its enlarged section align with a small section of the opening at the opposite end of the bore. The Office Action further states that not having this relationship "would prevent proper regulation of the suction pressure". This statement is traversed and not understood. Cook discloses an irrigation aspiration valve having a tear-shaped aperture extending through a wall thereof. There is no disclosure or suggestion that the shape of the bore opening that enters the inner chamber of the valve needs to be inverted. Further, the large size of the inner flow chamber in the valve body of Cook relative to the aperture appears to result in no negative consequence for the operation of the device.

Further, it is unclear how having an enlarged section at one end of the bore opening as compared to a small opening section at the other end would prevent proper regulation of the suction pressure as suggested in the Office Action. Applicant believes that the most restricted tear-drop shaped first bore opening having the smallest path would primarily control restriction of a flow regardless of a greater size of the second bore opening at the other end of the bore.

Further, it is unclear why one of ordinary skill in the art would modify Sjostrom by providing the tear-drop shaped valve bore of Cook through the entirety of the valve body, and then further modify the tear-drop shaped bore of Cook, already substituted for the bore of Sjostrom, by inverting the shape at one end, except in order to obtain Applicant's invention recited in Claim 9.

For the above reasons, Claims 1 and 9 are believed allowable over the applied prior art.

Claim 5 was rejected under 35 USC §103 as unpatentable over Sjostrom in view of Cook as applied to Claim 1, and further in view of Deng (U.S. Patent No. 6 436 067). Claim 5 depends from Claim 1 and thus is believed allowable for the reasons set forth above with respect to Claim 1.

Claims 1 and 5 were rejected under 35 USC §103 as being unpatentable over Deng (the '067 patent) in view of Cook.

The '067 patent discloses a powered surgical handpiece for receiving a cutter. The handpiece houses a motor and has a valve 52 that includes a barrel bore 58. Thus, the '067 patent teaches a valve similar to the valve of Sjostrom. Once again, Cook is relied on for the teaching of a tear-drop shape for the barrel bore.

For purposes of argument with respect to Claim 1, the '067 patent may be considered the equivalent of Sjostrom. Therefore, for the reasons set forth above with respect to the rejection of Claim 1 based on the combination of Sjostrom and Cook, independent Claim 1, and Claim 5 dependent therefrom,

are believed distinguishable over the '067 patent in view of Cook.

Claims 1 and 7 were rejected under the judicially created doctrine of obviousness-type double patenting as unpatentable over Claims 7-10 of Deng (U.S. Patent No. 6 312 441) in view of Cook.

Claim 7 of Deng (the '441 patent) recites a powered surgical handpiece including a housing, a motor fitted in the housing, a suction valve having a valve body that is seated in a valve bore of the housing to rotate about an axis, a single valve stem and a valve arm attached to the valve stem. Further, Claim 7 of the '441 patent recites a retaining member removably fitted to the housing to releasably engage a portion of the valve arm to prevent removal of the suction valve from the valve bore.

The rotatable valve body including a lever arm of the '441 patent generally corresponds to the valve arrangement disclosed in Sjostrom. For purposes of argument with respect to Claim 1 of this application, the '441 patent may be considered equivalent to Sjostrom. Thus, there is no motivation to provide the tear-shaped aperture of Cook for the valve recited in Claims 7-10 of the '441 patent for the reasons discussed above with respect to Sjostrom and Cook.

For the above reasons, Applicant believes Claim 1 distinguishes over the obviousness-type double patenting rejection based on Claims 7-10 of the '441 patent and Cook.

Applicant's independent Claim 7 recites a surgical handpiece including a housing and a valve assembly formed in said housing to intersect the suction bore. Claim 7 further recites a valve including a "valve bore having a non-circular valve bore opening that is selectively placed in registration with the suction bore" and "the valve bore opening being shaped to have a first narrow width section that is first placed in registration with the suction bore during the rotation of the valve from the closed state to the fully open state and a second, wide width section that is placed in

registration with the suction bore as said valve is further rotated toward the fully open state".

For the reasons discussed above with respect to Claim 1, Applicant believes there is no motivation to combine the tear-shaped opening of Cook with Claims 7-10 of the '441 patent. Therefore, Claim 7 is believed allowable over Claims 7-10 of the '441 patent in view of Cook and withdrawal of the obviousness-type double patenting rejection is respectfully requested.

The rejection of Claims 5 and 6 under the judicially created doctrine of obviousness-type double patenting as unpatentable over Claims 7 and 10 of the '441 patent in view of Cook, and further in view of the '067 patent, has been considered.

Claims 5 and 6 are believed distinguishable over the combination of the '441 patent, Cook and the '067 patent for the reasons set forth above with respect to independent Claim 1. Further, there would have been no motivation, absent Applicant's specification, to provide the indexing assembly of the '067 patent for the device recited in Claims 7 and 10 of the '441 patent. Therefore, Claims 5 and 6 are believed allowable and withdrawal of the obviousness-type double patenting rejection based on Claims 7 and 10 of the '441 patent and Cook and the '067 patent is respectfully requested.

Claims 29, 30 and 33 were rejected under 35 USC §103 as unpatentable over Sjostrom in view of Wyzenbeek (U.S. Patent No. 2 525 329) and Cox (U.S. Patent No. 4 113 288).

Applicant's Claim 29 now incorporates the features of cancelled Claim 30. Thus no new issues are presented and entry of the amendment is respectfully requested.

Claim 29 recites a surgical handpiece including a housing, a power generating unit and a valve assembly. Claim 29 further recites a suction mount arrangement having a suction mount rigidly mounted to the housing and fitted to an opening into the suction bore and "a suction fitting that is rotatably mounted to the proximal end of said suction mount,

said suction fitting having a groove extending about a circumference thereof, said groove coacting with said suction mount arrangement to enable rotation of said suction fitting with respect to said suction mount".

Sjostrom discloses a surgical handpiece including a housing and valve assembly 640. Further, Figure 3A of Sjostrom shows a spigot 650 at a proximal end of the handpiece for connection to a source of suction. There is no disclosure or suggestion of a suction fitting rotatably mounted to the proximal end of the spigot 650. Instead, column 12, lines 30-31 of Sjostrom merely discloses connecting the spigot to a source of suction.

Wyzenbeek discloses a trocar apparatus having a swivel member 14 with an opening receiving a tubular member 11 that threads to the handle 10 of the trocar apparatus as shown in Figure 2. The tubular member 11 has an annular stop and an opposite end from the threaded end to maintain the swivel member 14 on the apparatus. Flexible tube 15 attaches to the swivel member 14.

Cox discloses swivel couplings 20, 22 for a system that dispenses fuel from a reservoir tank into an automobile tank. A coupling includes a hose connection component 42 and a component 44 for connection to a rigid member 82 which may be a nozzle or pump. Figures 2 and 3 show the component 44 telescopically received in the component 42 with a nylon-like, somewhat-flexible flat ring 46 providing mechanical locking. The ring 46 engages both an internal groove 48 in component 42 and an external groove 50 in component 44. The ring 46 is sufficiently flexible to enable mating engagement of the components 42 and 44 with the ring 46 therebetween. Once mated, however, the components 42 and 44 are effectively fixedly locked together. There is no disclosure or suggestion of releasing the components 42 and 44 from one another once engaged.

There is no motivation to substitute the removable locking ring of Wyzenbeek for the spigot of Sjostrom.

Moreover, even if Wyzenbeek were combined with Sjostrom, which Applicant disagrees with, the rejection still would not be proper in view of the additional reference to Cox. The rejection then relies on Cox to provide a suction fitting for Sjostrom including a rotatable coupling to prevent rotation of one tube from transferring to another tube. Cox is improperly being applied to further modify the coupling of Wyzenbeek, as provided for the handpiece of Sjostrom. Modifying key elements of the secondary reference to Wyzenbeek to include features from Cox would not have been obvious to one of ordinary skill in the art. There is no motivation to simply substitute or provide the rotatable coupler of Wyzenbeek to Sjostrom and then further modify the provided Wyzenbeek coupler with the structure of Cox, unless improper hindsight is utilized.

Moreover Applicant's amended Claim 29 now recites "a removable locking member that coacts with a groove of said suction fitting so that said locking member releasably and rotatably holds said suction fitting to the suction mount". As discussed above and as disclosed at column 3, lines 26-30 of Cox, the Cox O-ring 46, once mated with the components 42 and 44, effectively permanently locks the components together. Applicant's arrangement enables the locking member to selectively release the suction fitting, as well as rotatably secure the suction fitting to the suction mount. As illustrated in Applicant's elected Figure 9, for example, the small bores 166 enable release of the suction fitting from the suction mount.

For the above reasons, Claim 29, and Claim 33 dependent therefrom, are believed allowable over the applied prior art.

Upon allowance of Claim 29, rejoinder and allowance of non-elected dependent Claims 31 and 32 is respectfully requested.

In view of the above, the instant application is believed to be in condition for allowance, and action toward that end is respectfully requested.

Respectfully submitted,

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